



Co-creating a thriving ecosystem

Te Auaunga Private Plan Change

Ecological Impact Assessment

Revision 2

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Executive Summary

Morphum Environmental Limited (Morphum) has been engaged by the Ministry of Housing and Urban Development (HUD) to prepare an Ecological Impact Assessment to support its application for a Private Plan Change. The Te Auaunga Private Plan Change seeks to amend the provisions of the Wairaka Precinct of the Auckland Unitary Plan: Operative in Part (AUP:OP) to better provide for the comprehensive redevelopment of the land. Land within the precinct has been acquired by HUD for housing purposes. HUD intends to redevelop the land in a manner more aligned with Business – Mixed Use purposes, than what the existing Special Purpose – Tertiary Education provisions, and the existing Business – Mixed Use provisions would currently support.

The purpose of the precinct, as currently described in the AUP:OP and retained through this plan change, is to provide for a diverse urban community. The precinct is located on the border of the primarily residential suburbs of Mt Albert and Waterview. The precinct includes the Unitec Campus, comprising buildings and educational facilities, a Marae, and areas of greenspace and landscaping including the Sanctuary Mahi Whenua. Oakley Creek (Te Auaunga) borders the precinct on the western boundary. Te Auaunga's riparian margin includes mature areas of mixed native and exotic vegetation that have been scheduled in the AUP:OP as a Significant Ecological Area (SEA_T_6008).

The Wairaka Stream originates in front of the Marae from an underground spring originating from the Mt Albert basalt aquifer and has a rich cultural significance to local Māori. Base flows are further supplemented by stormwater runoff from the site and surrounding Mt Albert catchment. The Wairaka Stream flows north through the precinct and is partially piped and culverted before it meets the confluence with Te Auaunga. Te Auaunga ultimately discharges to the upper reaches of the Waitematā Harbour south of SH16 at the Great North Road interchange.

The AUP:OP identifies the presence of notable trees throughout the site. In addition to any notable tree, the precinct identifies trees that must not be altered, removed or have works undertaken within the dripline in Table I334.6.7.1 (except as set out in I334.6.7(2)). Identified Trees are located in two main clusters, one along the north western boundary of the site includes 14 trees, and one in the center, in the vicinity of the Arts and Architecture School building, includes 15 trees. Vegetation on the site potentially offers roosting and nesting habitat for native and exotic birds, as well as potential habitat for other terrestrial fauna including lizards and bats - both of which have been recorded nearby.

It is unlikely that the change in zoning would significantly increase the level of light, noise or traffic movements within the precinct above the existing environment. The change in zoning does not increase the amount of these activities enabled by the current precinct provisions. With regards to ecological values, the additional building height is also considered unlikely to be noticeable, above the existing effects already anticipated by the current operative precinct provisions.

A Stormwater Management Plan (SMP) has been prepared and has been incorporated into Auckland Council's Network Discharge Consent. The SMP provisions are an improvement, given the previous lack of any on provisions in this regard.

The plan change retains the landscaping provisions of the underlying zones. Whilst primarily for the benefit of visual amenity of the precinct, landscaping also provides for the opportunity increase native vegetation cover and associated ecosystem services.

The revised provisions of the Te Auaunga Precinct in relation to open space is considered to be a negligible effect on ecological value. The centralised open space was always to be managed as a stormwater management area and maintained for as mown grass for this purpose. Any changes that may result from the amendments to the location of open space within the precinct are unlikely to result in any significant changes in this regard.

No amendments are proposed to the regional or district provisions of the Auckland Unitary Plan: Operative in Part that apply to activities, such as land disturbance and potentially vegetation clearance, that could potentially be undertaken in the future for the redevelopment of the site. Similarly, no changes are proposed which would affect the Auckland-wide provisions which relate to activities to streams, such as the standards which relate to the removal of existing structures, or the diversion of streams, and associated disturbance and discharges.

The changes proposed, being principally the change from one urban zone to another, do not significantly change the type of activities that can occur, or the level of physical development that is provided for as they relate to ecological considerations. Consequently, it is considered that the plan change results in a barely distinguishable or very slight change from effects enabled by the existing provisions. Where changes have been proposed, such as through the adopted SMP and the associated reduction in stormwater runoff, in conjunction with the treatment requirements, the ecological effects are likely to be positive.

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1. Introduction

1.1. Scope

Morphum Environmental Limited (Morphum) has been engaged by the Ministry of Housing and Urban Development (HUD) to prepare an Ecological Impact Assessment (EclA) to support its application for a Private Plan Change. The Te Auaunga Private Plan Change seeks to amend the provisions of the Wairaka Precinct of the Auckland Unitary Plan: Operative in Part (AUP:OP) to better provide for the comprehensive redevelopment of the land. Land within the precinct has been acquired by HUD for housing purposes. HUD intends to redevelop the land in a manner more aligned with Business – Mixed Use purposes, than what the existing Special Purpose – Tertiary Education provisions, and the existing Business – Mixed Use provisions would currently support.

An EclA is required to provide a description of the precinct, the surrounding area and the current ecological values, as well as a description and evaluation of the plan change request and associated potential effects as they relate to ecological matters.

1.2. Site Overview

The precinct is located on the border of the primarily residential suburbs of Mt Albert and Waterview. The precinct includes the Unitec Campus, comprising buildings and educational facilities, a Marae, and areas of greenspace and landscaping including the Sanctuary Mahi Whenua. The North-Western motorway and the Waterview connection is located along the northern and north-western boundaries of the precinct.

Oakley Creek (Te Auaunga) borders the precinct on the western boundary. Te Auaunga's riparian margin includes mature areas of mixed native and exotic vegetation that have been scheduled in the AUP:OP as a Significant Ecological Area (SEA_T_6008). Beyond Te Auaunga the residential suburb of Waterview extends to the coastal marine area forming the upper reaches of the Waitematā Harbour. Traherne Island and the Motu Manawa (Pollen Island) Marine Reserve, which feature a complex matrix of coastal ecotypes including shell banks, saltmarshes and mangroves, lie further offshore.

The Wairaka Stream originates in front of the Marae from an underground spring originating from the Mt Albert basalt aquifer and has a rich cultural significance to local Māori. Base flows are further supplemented by stormwater runoff from the site and surrounding Mt Albert catchment. The Wairaka Stream flows north through the precinct and is partially piped and culverted before it meets the confluence with Te Auaunga. Te Auaunga ultimately discharges to the upper reaches of the Waitematā Harbour south of SH16 at the Great North Rd interchange.

An overview of the Te Auaunga Precinct with ecological features of note are shown on the Map in Appendix 1.

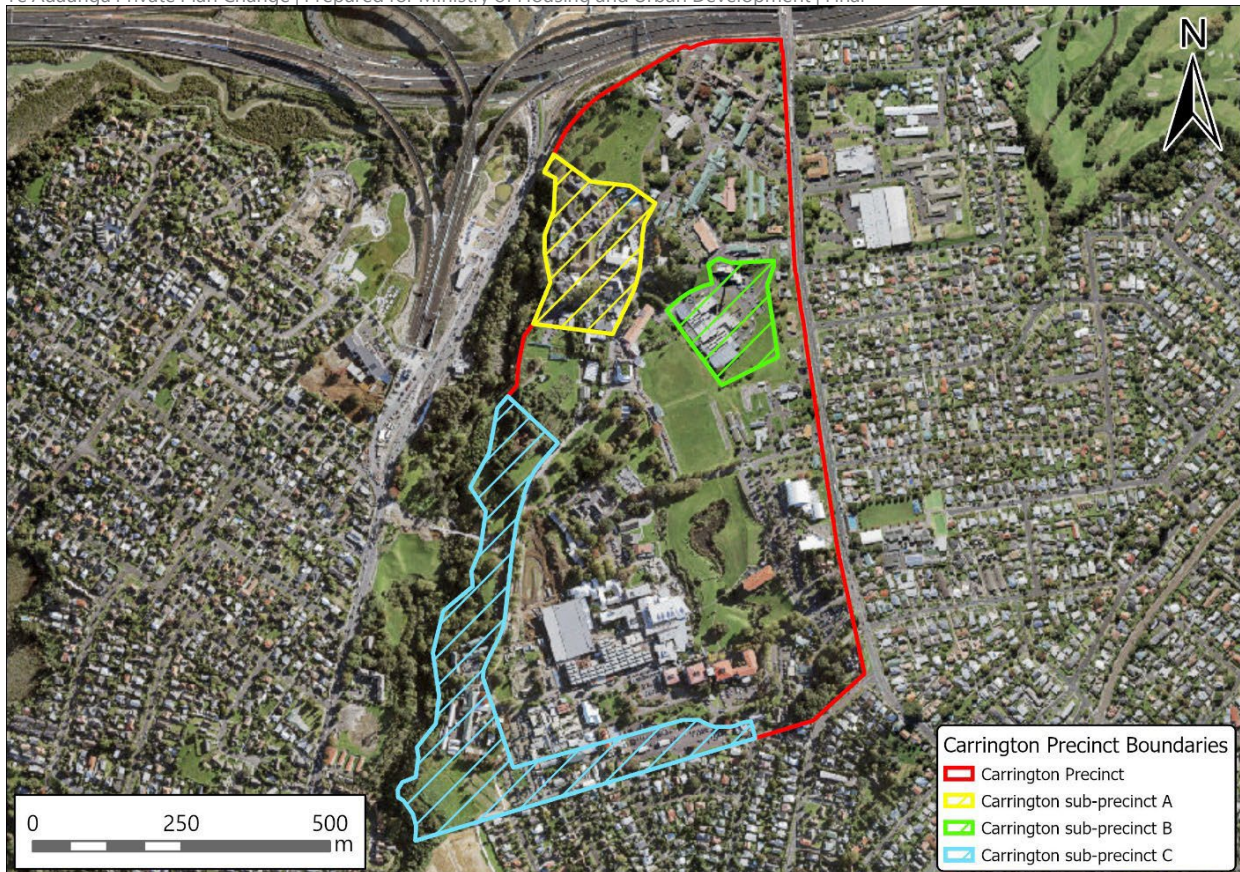


Figure 1: Wairaka Precinct (current)

1.3. Wairaka Precinct

The Wairaka Precinct is proposed to be renamed as Te Auaunga Precinct.

The purpose of the precinct, as currently described in the AUP:OP and retained through this plan change, is to provide for a diverse urban community. The existing precinct provisions recognise particular attributes which contribute to the amenity of the precinct and the surrounding area and these are required to be retained through the development of the precinct. These include the following:

- The significant ecological area of Te Auaunga.
- An open space network linking areas within the precinct.
- A network of pedestrian and cycleway linkages that integrate with the area network.
- The Wairaka Stream and the landscape amenity this affords.
- The Historic Heritage overlay of the former Hospital and identified trees on site.

In addition, Objective I334.2(10) (b) seeks to create an integrated urban environment which recognises, protects and enhances the environmental attributes of the Wairaka Precinct in its planning and development. The general policies of the precinct provide for subdivision and development that is compatible with and sensitive to the ecological qualities of Te Auaunga and the Motu Manawa Marine Reserve.

The precinct provisions also note that a comprehensive stormwater management plan should be prepared to accompany an application for subdivision or development within the precinct.

A significant proportion of the land to which this plan change relates is largely related to educational uses. Making a plan change necessary to enable a more diverse range of urban uses.

2. Current Ecological Values

A site visit was undertaken on 17 March 2021. The site visit was undertaken by a suitably qualified and experienced environmental scientist and involved detailed site characterisation and mapping of ecological features. During these surveys all vegetation types and ecological features of note were surveyed, described and any fauna observations were also recorded. Ecological features of note are shown on the Map in Appendix 1.

2.1. Ecological Context

The Te Auaunga Precinct is within the Tamaki Ecological District. 6.9% of the Tamaki Ecological District remains in indigenous vegetation. This vegetation has been highly modified from early Polynesian occupation through to more recent urban development (Lindsay *et al.*, 2009).

The current extent of ecosystems located along the Te Auaunga includes treeland, exotic forest, exotic scrub, broadleaf species scrub/forest, and planted vegetation (Singers *et al.* 2017). Vegetation across the site and surrounding area is predicted to have originally comprised of pūriri (*Vitex Lucens*) and totara (*Podocarpus totara*) forest across alluvial terraces, with the inclusion of Taraire (*Beilschmiedia tarairi*) on flat to rolling land, and kahikatea (*Dacrycarpus dacrydioides*) across narrow river valleys and wide flood plains (Singers, *et al.* 2017).

2.2. Catchment and Receiving Environment

The Oakley stormwater catchment is approximately 1,265 ha of primarily residential land. The catchment has significant (more than 25%) impervious surface. The Landcare Research (2020) Land Cover Database version 5.0 describes the land cover as predominantly Built-Up area, intermixed with small fragments of Indigenous Forest and Urban Parkland/Open Space. Built up areas are considered as commercial, industrial or residential buildings, including associated infrastructure and amenities; having less than 10% indigenous cover and “very little native biodiversity remains in these environments.”

Te Auaunga feeds into the Oakley Creek estuary, within a Category 1 Marine SEA (SEA-M1-53) in the Waitematā Harbour. Approximately 420 m offshore, a significant wading bird habitat area designated within this SEA (SEA_M1_53W1-2) provides important roosting, nesting and feeding grounds for shore birds and waders. Traherne Island and the Motu Manawa (Pollen Island) Marine Reserve, lie further offshore.

2.3. Site Description

The Te Auaunga Precinct is located on a relatively steep (over 30 degrees), western facing slope. The land slopes down from Carrington Road, towards Te Auaunga.

Land use and vegetation coverage within the site is diverse. A substantial portion of the site is given over to existing buildings currently occupied by the Mason Clinic, Unitec and Taylors Laundry, as well as the associated carparking facilities. The site also features areas of open space, some of which is used for a range of activities including community gardens and landscaping. The SEA on the western boundary partially extends into the western boundary of the precinct. There are no other SEAs within the precinct.

The spring-fed Wairaka Stream arises near the center of the site and flows through on a roughly north-western alignment before discharging through to Te Auaunga. There are artificially constructed stormwater ponds in the precinct’s west, behind Unitec’s Trades Building and in the central green space referred to as the central wetland. There are no other watercourses onsite.

2.4. Terrestrial Values

2.4.1. Existing Vegetation

The main vegetation types present within the precinct are identified in Table 1, Figure 2 provides representative photographs of each of these community types.

The AUP:OP identifies the presence of notable trees throughout the site. In addition to any notable tree, the precinct identifies trees that must not be altered, removed or have works undertaken within the dripline in Table (except as set out in I334.6.7(2)). Identified Trees are located in two main clusters, one along the northwestern boundary of the site includes 14 trees, and one in the center, in the vicinity of the Arts and Architecture School building, includes 15 trees.

Vegetation on the site potentially offers roosting and nesting habitat for native and exotic birds, as well as potential habitat for other terrestrial fauna including lizards and bats, both which have been recorded nearby. Table 1, below provides an assessment of the vegetation communities ecological values utilising the assessment matters from the Environment Institute of Australia and New Zealand (EIANZ) 2018 Ecological Impact Assessment Guidelines, as outlined in Appendix 1.

Table 1: Main Vegetation Community Types

Vegetation Type	Description
Mown grass	Areas of mown grass includes the open space around the central wetland, including the playing field to the north, as well as, areas to the west around the Sanctuary Gardens and Women's Suffrage Gardens.
Rank Grass	Interspersed throughout the precinct, grassed areas that would appear to no longer be subject to active management. The largest area of this vegetation type is located immediately north of the Mason Clinic.
Exotic riparian vegetation	Low-lying exotic riparian vegetation, including nasturtium (<i>Tropaeolum majus</i>), privet (<i>Ligustrum</i> spp.), red hot poker (<i>Kniphofia</i>) and brush wattle (<i>Paraserianthes lophantha</i>) is present along the Wairaka Stream, particularly below the central wetland.
Native riparian vegetation	An established section of regenerating native riparian vegetation is located around the Wairaka Stream, from the headwaters through the open space area down to a culvert beneath the western internal road, and then again approximately 80 m from the end of the box culvert into the Mason Clinic Site.
Mature mixed canopy	Groves of mature native and exotic species can be found interspaced throughout the precinct, Notably in the South-eastern corner. Native species include pohutakawa (<i>Metrosideros excelsa</i>) and kahikatea with a regenerating understory of native karo (<i>Pittosporum crassifolium</i>) and karamu (<i>Coprosma robusta</i>).
Notable and Identified Trees	Six notable trees and 47 identified trees are spread across the precinct. These are located in two main clusters, one along the northwestern boundary that includes 14 trees, and one in the centre of the site in the vicinity of the Unitec corporate office that includes 15 trees. Individual trees and smaller groupings are located throughout the precinct.



Mown Grass



Rank Grass



Native Riparian Vegetation



Exotic Riparian Vegetation



Mature Mixed Canopy



Notable and Identified Trees

Figure 2: Indicative Site Photographs

Table 2: Assessment of Current Terrestrial Values

Assessment Matter	Ecological Value (EIANZ, 2018)	Reasoning
Representativeness	Low	The vegetation communities within the precinct are not typical or characteristic of the structure and composition that would naturally be found at this location. The site has been heavily modified by past vegetation clearance, as can be seen when the vegetation within the precinct is compared to the riparian vegetation around Te Auaunga. Limited ecological value other than as for habitat for tolerant native species. Notwithstanding that individual trees (mainly exotics) are of arboriculture merit as demonstrated by the existing protection.
Rarity/distinctiveness	Low	The vegetation communities within the precinct are not considered to be rare in terms of scarcity of species, communities, habitats or ecosystem types and reflect similar landscapes in urban catchments. Species, habitats, or ecological features present are not considered to be prone or at risk of local or national loss or extinction.
Diversity and pattern	Low	The vegetation communities within the precinct are not considered to represent a natural diversity of species or habitat types.
Ecological context	Moderate	The vegetation communities within the precinct are considered to potentially provide foraging, nesting habitat functions, mainly for tolerant species but the presence or use of the site by At-Risk indigenous species cannot be categorically ruled out. Value reduced due to the proximity of higher quality habitat around Te Auaunga.

2.4.2. Avifauna

The paucity of native or exotic vegetation is reflected in the species of birds recorded from within precinct, which are a typical assemblage of species that can inhabit or make use of landscaping vegetation in an urban setting. Incidental birdlife noted during the site visits were limited to common garden species, refer to Table 3 below. No 'Threatened' or 'At Risk' species were recorded within the precinct.

Previous five minute bird surveys undertaken within the Te Auaunga corridor have identified 17 species of birds dominated by common introduced and native birds with no Threatened or At Risk species (Boffa Miskell Ltd, 2014). It is likely that these common species may be found throughout the precinct.

Table 3: Bird Species Observed

Common name	Scientific name	Threat Status (Robertson <i>et al.</i> 2017)
Australian Magpie	<i>Gymnorhina tibicen</i>	Introduced and naturalised
Common Myna	<i>Acridotheres tristis</i>	Introduced and naturalised
Eurasian Blackbird	<i>Turdus merula</i>	Introduced and naturalised
House Sparrow	<i>Paser domesticus</i>	Introduced and naturalised
New Zealand Kingfisher	<i>Todiramphus sanctus vagans</i>	Not Threatened
North Island Fantail	<i>Rhipidura fuliginosa placabilis</i>	Not Threatened
Pukeko	<i>Porphyrio melanotus melanotus</i>	Not Threatened
Skylark	<i>Alauda arvensis</i>	Introduced and naturalised
Song Thrush	<i>Turdus philomelos</i>	Introduced and naturalised

Spur Wing Plover	<i>Vanellus miles</i>	Not Threatened
Welcome Swallow	<i>Hirundo neoxena neoxena</i>	Not Threatened

2.4.3. Herpetofauna

Given the project scope, a detailed search for native herpetofauna was not undertaken. Suitable lizard habitat was limited to isolated areas of rank grassland, riparian vegetation (both native and exotic) and the area of Mixed Mature Canopy environments.

Details of native lizard species reported to be present elsewhere in the Tamaki Ecological District are listed in Table 4. Previous lizard surveys undertaken along the Oakley Creek walkway in association with the Waterview walking and cycling facility and Waterview Connection have identified populations of copper skinks and it is considered likely that these lizards may be found on site. Copper skink have recently (2021) been assigned a threat status of 'At Risk – Declining' by the Department of Conservation under the qualifier C(1). C(1) denotes a current large population, with ongoing or predicated decline (Hitchmough *et al.* 2021).

Geckos are unlikely to have persisted within the precinct due to the site's history of habitat modification and the lack of any substantial native vegetation which makes it unlikely that native geckos would recolonise the site naturally. Ornate skinks are generally found within heavily forested, and protected, coastal vegetation; such cover is not found within the precinct.

The exotic plague skink (*Lampropholis delicata*) is likely to be present, given its wide distribution in the Auckland Region.

Table 4: Native Lizards Found in the Wider Tamaki Ecological District

Species	Common Name	Threat Status (Hitchmough <i>et al.</i> 2021).
<i>Oligosoma aeneum</i>	Copper skink	At Risk - Declining
<i>Oligosoma ornatum</i>	Ornate skink	At Risk - Declining
<i>Mokopirirakau granulatus</i>	Forest gecko	At Risk - Declining
<i>Naultinus elegans</i>	Elegant gecko	At Risk - Declining

2.4.4. Bats

Populations of the native long-tailed bat (*Chalinolobus tuberculatus*) are known in the Waitakere Ranges. Long-tailed bats feed on the wing and often feed on riparian and forest margins where invertebrate life is more abundant. Native bats often utilise streams as movement corridors and can forage over 50 km in a single night along watercourses.

Long-tailed bats prefer to roost in larger, older, canopy trees with cavities, epiphytes and loose bark. Such habitat is found within the adjacent SEA vegetation. Given the proximity of the SEA vegetation along Te Auaunga it is possible that long-tailed bats could forage within the precinct, although the likelihood of any roosting occurring is considered negligible given the proximity of higher quality roosting habitat along Te Auaunga.

Short-tailed bats prefer deep-forest habitat and are associated with old growth indigenous forest. The only known population of short-tailed bats known to the Auckland region is found on Little Barrier Island. As such their presence within the precinct is considered extremely unlikely.

2.5. Freshwater Values

The Wairaka Stream is a tributary of Te Auaunga and is the primary freshwater feature located within the precinct. The stream is fed by an underground spring originating from the Mt Albert basalt aquifer. The aquifer spring provides constant base flows throughout the year, along with treated stormwater runoff from the site and part of the wider catchment which enters the stream beside Farm Road.

A watercourse assessment was undertaken on the Wairaka Stream in 2012 as part of the Oakley Creek Watercourse Management Plan (Morphum, 2012). This describes the stream channel as comprising stable volcanic substrate with some potential for erosion. Riparian vegetation along the length of Wairaka Stream comprises sections of established native vegetation, flax planting in front of the marae (Pā harakeke), mown grass, and isolated mature exotic trees. Numerous freshwater fish were recorded along the length of the Wairaka Stream, including bullies, populations of adult inanga, galaxiids and eels.

The stream is piped under Farm Road and modified beyond this to form a pond in the Women's Suffrage Garden. The stream is culverted under the main north-south road beside the Pumphouse building and, at the time of the site visit, was then piped through a 70 m long concrete box culvert (approximately 1 m x 1 m), past the beekeepers hives and Sanctuary Gardens. Within the Mason Clinic site, the stream returns to a natural channel through native riparian vegetation behind building 32 and flows through a planted wetland area at the confluence with Te Auaunga.

A Stream Ecological Valuation (SEV) was undertaken in the downstream reaches of the Wairaka Stream by Estrin and Phillips (2014) to measure the health of the stream below the piped reach. The Wairaka Stream scored an overall value of 0.58, indicating moderate ecological function. Water temperature control and dissolved oxygen levels were reported to be good over the full reach length. The primary limiting factors were the lack of habitat provision, and the organic matter in the stream.

Table 5 provides a summary of the site's current freshwater ecological values utilising the assessment matters from EIANZ (2018).

Table 5: Assessment of Current Freshwater Values

Assessment Matter	Ecological Value (EIANZ, 2018)	Reasoning
Representativeness	Low	The Wairaka Stream is reasonably characteristic of a first order, permanent waterway in an urban catchment where it flows through the precinct.
Rarity/distinctiveness	Moderate	A spring-fed stream in urban Auckland is considered distinctiveness although not rare
Diversity and pattern	Low	The Wairaka Stream is not considered to represent a high level of natural diversity or complexity.
Ecological context	Moderate	The Wairaka Stream is not considered to be notable in an ecological context. The first order stream offers little by way of riparian habitat and contributes little by way of habitat and other ecological functions to the wider catchment. Notwithstanding the above, it has been assessed as having a Moderate ecological value using the SEV methodology and the potential for Longfin eel (At Risk – Declining) to utilise the stream as habitat.

2.6. Summary of Ecological Values

The current ecological values from within the precinct have been described based on onsite, in-field observations in conjunction with a review of the available literature and databases. A summary of this information is presented in Table 6 based on the Environment Institute of EIANZ (2018) guidelines.

The onsite vegetation is considered to be of low ecological value. The vegetation within the precinct, as described in section 2.4, should not be confused with the SEA vegetation surrounding Te Auaunga.

Whilst onsite fauna observations were limited to common species, the use of this area by threatened species such as long-tailed bats and native herpetofauna, whilst considered unlikely, cannot categorically be ruled out. Therefore, a conservative approach has been taken where it is assumed such species may be found with the precinct, notwithstanding that the probability of species being present within the precinct is considered unlikely. For bats, the site offers minimal foraging and roosting opportunities and there is also much higher quality habitat in the immediate area. As such, although bats have been ascribed a Very High ecological value, the actual probability that bats would be found within the precinct is negligible. For herpetofauna, habitat and foraging opportunities are also limited, such that the probability that any threatened species would be found within the precinct is negligible.

Table 6: Assessment of Current Ecological Values

Impact	Ecological Value (EIANZ, 2018)	Reasoning
Vegetation	Low	Area rates Low or Very Low for majority of assessment matters and Moderate for one (Representativeness, Rarity/distinctiveness, Diversity and pattern, Ecological context).
Avifauna	Low	Indigenous species presence limited to nationally and locally common species.
Herpetofauna	High	Actual species presence is likely to be limited to abundant copper skinks, or pest species. Although without detailed surveys the presence of other species cannot be categorically ruled out.
Bats	Very High	Actual species presence is unlikely, although potential intermittent use by long-tailed bats cannot be categorically ruled out; notwithstanding actual habitat and foraging values are low.
Freshwater Values	Moderate	Area rates Low for two and Moderate for two assessment matters (Representativeness, Rarity/distinctiveness, Diversity and pattern, Ecological context).
Native Freshwater Fish	High	Records indicate that the Wairaka Stream support a range of native freshwater fish, and potentially including At Risk – Declining Longfin eel.

3. Proposal

The Te Auaunga Private Plan Change seeks to amend the provisions of the (Wairaka) precinct to better provide for the comprehensive redevelopment of the site. Changes sought aim to better provide for the built form outcomes envisaged for the future development. In summary, the changes proposed are to:

- Rezone the land acquired from Unitec from Special Purpose – Tertiary Education to Business – Mixed Use zone.
- Amend wording to update the vernacular throughout the precinct to reflect the cultural values and priorities of the Rōpū.
- Amend the precinct provisions to provide for a range of urban activities and the built form outcomes envisaged for the future development, including enabling additional building height across the precinct.
- Delete the precinct-specific landscaping standards, to retain that of the underlying zone.

Additionally, small areas within the plan change are proposed to be rezoned from Residential - Terrace Housing and Apartment Building Zone, and Residential – Mixed Housing Urban Zone, to Business Mixed Use.

Open space is also proposed to be reconfigured. Key changes in the open space include a reduction in the extent of open space area around the central stormwater pond; the introduction of a dedicated open space north of the old Oakley Hospital Building and the site surrounds on the motorway interchange and to the west of Farm Road.

No changes are proposed in relation to:

- The riparian yard.
- Any provisions relating to the identified trees.
- Any provisions relating to SEA_T_6008 (Oakley Creek).
- Existing requirements for Stormwater Management Plans (SMPs).

Access is retained through to Te Auaunga.

Full details of the proposed plan change are provided in the plan change application and accompanying section 32 report prepared by Tattico 2022.

4. Ecological Impact Assessment

The current ecological values of the areas that would be impacted by the likely future activities that are enabled by the plan change are summarised below. The baseline for assessing the ecological effects is taken as the current Special Purpose – Tertiary zoning. The purpose of the Te Auaunga Precinct remains to provide for a diverse urban community. The change from a Special Purpose to a business zone does not enable any specific activities that would impact on ecological values.

It is unlikely that the change in zoning would significantly increase the level of light, noise or traffic movements within the precinct above the existing environment. The change in zoning does not increase the amount of these activities enabled by the current precinct provisions. The additional building height, and changes to the landscaping standards are also considered unlikely to be noticeable, above the existing effects already anticipated by the current operative precinct provisions.

4.1. Stormwater

Stormwater discharges can be conceptually separated into two different types of potential effects: hydrological and the effects on water quality in the receiving environment. The changes in hydrology from increased impervious surface coverage, unless managed, can have a significant adverse effect on streams within the catchment including accelerating river and stream erosion and bank instability, and creating hydrological conditions that do not support healthy aquatic ecosystems. The building material used, and the type of activities undertaken can also generate a range of contaminants that can be mobilised and discharged offsite with the stormwater. Both point source and diffuse discharges from urban activities can affect freshwater quality and ecosystem health.

A Stormwater Management Plan (SMP) has been prepared by mps limited, which has been incorporated into Auckland Council's Network Discharge Consent (NDC). The SMP also satisfies the Te Auaunga Precinct and AUP:OP requirements for a SMP. The SMP provisions are summarised below:

- All new buildings will use low-contaminate generating roofing material.
- Treatment is proposed for the backbone roading network, which will be decided upon in consultation with Auckland Transport, noting that the future public roads are considered unlikely to meet the threshold at which stormwater quality treatment must be provided.
- All carparks with greater than 30 parking spaces (per development lot) will be provided with at-source stormwater treatment where the stormwater discharge does not already go to a stormwater treatment device within the precinct.

No stormwater retention or detention of stormwater flows beyond any existing measures are proposed. The use of hydrology mitigation is deemed unnecessary for the plan change area as:

- The banks and bed of the watercourses being formed largely of volcanic rock and are erosion resistant. Appropriate outfall design and erosion protection measures will be sufficient to ensure erosion risk is not exacerbated.
- The catchment is not within a Stormwater Management Area (SMAF) zone.
- Any small storm detention onsite would likely negatively impact Te Auaunga by coinciding flow from the precinct with peak flows in the main channel.

As it relates to ecological values, the SMP provisions are an improvement on the lack of any provisions in this regard.

4.2. Landscaping

The plan change seeks to delete the current standard relating to landscaping (I334.6.5(1)), and to rely on the landscaping provisions of the underlying zones. Whilst primarily for the benefit of visual amenity of the precinct, landscaping also provides for the opportunity increase native vegetation cover and associated ecosystem services.

4.3. Amendments to the Open Space

The revised provisions of the Te Auaunga Precinct in relation to open space is considered to be a negligible effect on ecological values. The centralised open space was always to be managed as a stormwater management area and maintained for as mown grass for this purpose. Any changes that may result from the amendments to the location of open space within the precinct are unlikely to result in any significant changes in this regard.

4.4. Provisions of the AUP:OP

No amendments are proposed to the regional or district provisions of the AUP:OP that apply to activities, such as land disturbance and potentially vegetation clearance, that could potentially be undertaken in the future for the redevelopment of the site. Similarly, no changes are proposed which would affect the Auckland-wide provisions which relate to activities to streams, such as the standards which relate to the removal of existing structures, or the diversion of streams, and associated disturbance and discharges.

Should any resource consent be required for any of the activities identified, including vegetation clearance and/or earthworks, consents would still be required under the existing provisions of the AUP:OP.

Should any resource consent be required for any of the activities identified, then Auckland Council would have the ability, through the usual resource consenting process, to place conditions on the consent to mitigate any identified effects.

4.5. The Wildlife Act 1953

The Wildlife Act (1953) absolutely protects all native lizards, bats and birds (unless listed as a in Schedule 5). It is an offence to disturb or kill these species. Consequently, a permit under the Wildlife Act would be required for any (potential) harm to these species.

The plan change does not impact upon this requirement.

4.6. Ecological Impact Assessment

The changes proposed, as summarised in section 3, being principally the change from one urban zone to another, does not significantly change the type of activities that can occur, or the level of physical development that is provided for. Consequently, it is considered that the plan change results in a barely distinguishable or very slight change from effects enabled by the existing provisions, as summarised in Table 7 below. Where changes have been proposed, such as through the adopted SMP and the associated reduction in stormwater runoff, in conjunction with the treatment requirements, the environmental effects are likely to be positive.

Table 7: Magnitude and Level of Effect

Ecological Component	Ecological Value (EIANZ, 2018)	Magnitude of Effect	Level of Effect
Vegetation	Low	Negligible	Very Low
Avifauna	Low	Negligible	Very Low
Herpetofauna	High	Negligible	Very Low
Bats	Very High	Negligible	Low
Freshwater	Moderate	Positive	Net Gain
Native Freshwater Fish	High	Negligible	Very Low

The level of effect on the site’s ecological values from the proposed activities has been assessed as Low – Net Gain. The plan change does not fundamentally change the level of development that could occur on the site, and therefore the level of change that could occur to ecological values. The EIANZ guidelines provide a range for the Level of Effect from Very High – Net Gain, there is no option for ‘neutral’ or ‘no change’. The description of a Low level of effect from EIANZ (2018) is: Minor shift away from baseline conditions. Change may be discernible, but underlying character, composition, or attributes of the site will be similar to pre-development, which is considered to be an appropriate description of the effects that may arise on ecological values following the ranting of this private plan change request.

5. Conclusions

The Te Auaunga Private Plan Change seeks to amend the provisions of the Wairaka Precinct of the Auckland Unitary Plan: Operative in Part to better provide for the comprehensive redevelopment of the land. Land within the precinct has been acquired by the Ministry of Housing and Urban Development for housing purposes. The Ministry of Housing and Urban Development intends to redevelop the land in a manner more aligned with Business – Mixed Use purposes, than what the existing Special Purpose – Tertiary Education provisions, and the existing Business – Mixed Use provisions would currently support. The purpose of the precinct, as currently described in the Auckland Unitary Plan: Operative in Part and retained through this plan change, is to provide for a diverse urban community.

It is unlikely that the change in zoning would significantly increase the level of light, noise or traffic movements within the precinct above the existing environment. The change in zoning does not increase the amount of these activities enabled by the current precinct provisions. The additional building height is also considered unlikely to be noticeable, above the existing effects already anticipated by the current operative precinct provisions.

A Stormwater Management Plan has been prepared by mps limited, which has been incorporated into Auckland Council's Network Discharge Consent. The Stormwater Management Plan provisions are an improvement on the lack of any current provisions in this regard.

The revised provisions of the Te Auaunga Precinct in relation to open space is considered to be a negligible effect. The centralised open space was always to be managed as a stormwater management area and maintained as mown grass for this purpose. Any changes that may result from the amendments to the location of open space within the precinct are unlikely to result in any significant changes in this regard.

The changes proposed, being principally the change from one urban zone to another, do not significantly change the type of activities that can occur, or the level of physical development that is provided for. Consequently, it is considered that the plan change results in a barely distinguishable or very slight change from effects enabled by the existing provisions. Where changes have been proposed, such as through the adopted SMP and the associated reduction in stormwater runoff, in conjunction with the treatment requirements, the environmental effects are likely to be positive.

The level of effect on the site's ecological values from the proposed activities has been assessed as Low – Net Gain. The plan change does not fundamentally change the level of development that could occur on the site, and therefore the level of change that could occur to ecological values.

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Appendix 1 Map



Z:\Projects\Government\HUD\PO2916 Carrington Plan Change\GIS\ArcPro\PO2916_arcpo Layout Carrington_Precinct_A3

-  Identified Trees
-  Permanent Stream
-  Culvert
-  Stormwater Management Device
-  Spring / Puna O Wairaki
-  Te Auaunga Precinct
-  Marine SEA
-  Terrestrial SEA

Client Ministry for Housing and Urban Development

Project **TE AUAUNGA PLAN CHANGE**



Project no. P02916

Date 17 Jun 2022

Drawn DB

Approved JS

This plan may contain errors or omissions or may not have the spatial accuracy required for some purposes. There may be other information relating to the area shown on this map which is unknown to Morphem Environmental Ltd. This map may contain Crown copyright data. Please consult Morphem Environmental Ltd if you have any queries.

Appendix 2 EIANZ Assessment Methodology

Table 8: Assigning Value To Species, Vegetation And Habitats (from EIANZ, 2018)

Value	Species Values	Vegetation/Habitat Values
Very High	Nationally threatened species found in the (Zone of Influence) ZOI1 either permanently or seasonally	Area rates High for 3 or four attributes (Representativeness, Rarity/distinctiveness, Diversity and pattern, Ecological context). Likely to be national important and recognised as such
High	Species listed as At Risk – Declining, found in the ZOI either permanently or seasonally	Area rates High for 2 of the attributes, Moderate and Low for the remainder, or Area rates High for 1 assessment matters, Moderate for the remainder Likely to be regionally important and recognised as such
Moderate	Species listed as any other category of At Risk, found in the ZOI either permanently or seasonally, or Locally (ED) uncommon or distinctive species	Area rates High for 1 assessment matters, Moderate and Low for the remainder, or Area rates Moderate for 2 or more of the attributes, Low or Very Low for the remainder Likely to be important at the level of the Ecological District
Low	Nationally and locally common indigenous species	Area rates Low or Very Low for majority of assessment matters and Moderate for 1 Limited ecological value other than as for habitat for tolerant native species
Negligible	Exotic species, including pest species having recreational value	Area rates Very Low for 3 matters and Moderate, Low or Very Low for remainder

¹ The Zone of Influence (ZOI) refers to all land, water bodies and receiving environments that could be potentially impacted by the project.

Table 9: Criteria for Describing Magnitude of Effect (from EIANZ, 2018)

Magnitude	Description
Very High	Total loss of or major alteration to key features of the baseline condition causing a fundamental change or complete loss of the character, composition, or attributes of the site.
High	Major loss or major alteration to key features of the baseline condition causing a fundamental change of the character, composition, or attributes of the site.
Moderate	Loss or alteration of one or more key features of the baseline condition causing a partial change to the character, composition, or attributes of the site.
Low	Minor shift away from baseline conditions. Change may be discernible but underlying character, composition, or attributes of the site will be similar to pre-development.
Negligible	Very slight change from existing baseline condition. Change barely distinguishable.

Table 10: Criteria for Describing Level of Effects (from EIANZ, 2018)

		Ecological Value				
		Very High	High	Moderate	Low	Negligible
Magnitude	Very High	Very High	Very High	High	Moderate	Low
	High	Very High	Very High	Moderate	Low	Very Low
	Moderate	High	High	Moderate	Low	Very Low
	Low	Moderate	Low	Low	Very Low	Very Low
	Negligible	Low	Very Low	Very Low	Very Low	Very Low
	Positive	Net gain	Net gain	Net gain	Net gain	Net gain

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